

## CLIMATOLOGICAL DATA FOR JULY, 1911.

## DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

## GENERAL SUMMARY.

July, 1911, was characterized by excessively high temperatures during the first five days, unusually low temperatures between the 11th and 28th, and over the southern and western sections by the continuation of the drought that has obtained during the past three months. The month opened with a hot wave that continued until the night of the 5th. During that period temperatures of 100° or higher were recorded on one or more days in all parts of the upper Mississippi Valley, the highest recorded in each State being as follows, viz: North Dakota, 102°; Minnesota, 105°; South Dakota, 102°; Wisconsin, 106°; Iowa, 111°; Missouri, 113°; Indiana, 105°; and Illinois, 108°. The torrid period will be memorable in weather annals for its wide extent, its long duration, the large number of fatalities that it caused, and its damaging effects upon crops; but it did not equal the hot period in July, 1901, either in duration or the severity of the heat. Relief from the hot wave came with light to heavy thunderstorms over the larger part of the territory on the evening of the 5th, or the morning of the 6th, which also gave great relief from the drought that was becoming serious in many localities.

After the 15th the weather was much cooler, and, as a result, the monthly mean temperature for the district was only a fraction of a degree above the normal. Unusually cool weather prevailed between the 11th and the 28th, lower temperatures being observed at numerous stations than were ever before recorded during the latter half of July. Freezing temperatures occurred in Minnesota on the 11th and in North Dakota on the 16th; and frost was observed in North Dakota and Minnesota on the 16th, in Wisconsin on the 17th, and in northern Illinois on the 26th. Showers were more frequent and the rainfall more copious after the 5th, but there was a deficiency of moisture in all sections except Minnesota, South Dakota, and Indiana, where there was a slight excess for the month. Iowa reported a greater deficiency of rainfall than any other section of the district, but yet the eastern counties of that State showed an excess. In the western portion of Iowa, within this district, the drought was severe during the entire month and crops were seriously damaged; small streams were dry; wells were low, and water for stock was scarce.

## TEMPERATURE.

In regard to temperature July was a month of extremes. The maximum temperatures were nearly as high as those recorded in July, 1901, when all previous records for high temperatures were broken, and the minimum temperature at numerous stations was lower than ever before recorded during the latter half of July; and yet the monthly mean was only 0.7° above the normal. The first five days were excessively hot, temperatures of 100° or higher being recorded on one or more days in all parts of the district, the highest being 113°, in Missouri, on the 3d. From the 6th to the 10th the weather was moderate as compared with the first five days, but still the temperature was

above the normal. From the 11th to the 28th it was unusually cool, with temperatures near or below the freezing point in the extreme northern part of the district on one or more days, and only slightly above 40° in southern sections.

The monthly mean temperature for the district, as shown by the records of 293 stations, is 71.9°, which is 0.7° above the normal. The highest monthly mean was 80.4° at Steffenville, Mo., and the lowest, 60°, at Hannah, N. Dak. The highest temperature was 113°, at Steffenville, Mo., on the 3d, and the lowest, 23°, at Manfred, N. Dak., on the 16th.

## PRECIPITATION.

As in May and June, the rainfall for July was below the normal over the larger part of the upper Mississippi Valley, the only sections reporting an excess being Minnesota and the small portions of South Dakota and Indiana within the district; and yet there were localities in all sections where more than the normal amount fell, while in other, and frequently near-by, localities the rainfall was decidedly deficient. All of the rainfall came in the form of local showers, many of which covered very small areas, and, although the showers were fairly well distributed throughout the month, the drought continued with increased severity in many localities. In North Dakota the precipitation was fairly evenly distributed, both geographically and throughout the month, but at the close of the month vegetation was in a backward condition and more rain was badly needed for late grains and pastures. In Minnesota the rainfall ranged from more than 4 inches in a large number of southeastern and eastern counties to less than 2 inches in several southwestern and northwestern counties. There was a quite general and considerable excess in most of the central and southern and a general deficiency in the northwestern counties.

In Nobles County, in the extreme southwestern part of the State, there was a deficiency of 2.75 inches. In Wisconsin rainfall was light in the southern half of the State, but was heavy in the northern counties, especially in the headwaters of the Wisconsin River, where the totals for the month ranged from 5 to 9 inches. Some moderately severe thunderstorms were reported, which were accompanied by high wind and light hail, but the damage reported was slight. The fall of precipitation was well distributed throughout the month in most localities, and this alleviated somewhat the droughty conditions existing in some counties. The severe drought that has obtained in Iowa during the past three months continued over the larger part of the State during the entire month. In the eastern counties the drought was broken by copious showers on the 5th, which were followed by fairly well distributed showers during the remainder of the month, with heavy rains on the 28th. Over the western part of the State, the drought continued with increased severity, notwithstanding the fact that there was only one day, the 1st, during the month on which rain did not fall at some place within that part of the State in district No. 5. The amounts of rainfall over the western counties were,

however, too small, on account of the great interval between showers at any one place, to be of much benefit to crops. All small streams are dry, wells are low, and water for stock is very scarce; and, as a result, many farmers are selling their live stock. The drought is the worst that has prevailed since 1894, and the temperature during the first five days of the month was the highest ever recorded in the State so early in July, and the highest on record, except during the hot wave in the latter part of July, 1901. In Missouri the drought which began about May 1 was partially relieved during the second week by scattered showers, and further alleviated by good rains on the 23d and the last two days of the month. At the close of the month vegetation, which had suffered severely, had revived somewhat, and the rains were sufficient to replenish stock water for the time being, and corn was greatly improved. Practically no rain fell in that part of Indiana within the district during the first week, but showers were frequent after that time. They were extremely local in character, however, and while some places were favored with sufficient moisture to sustain a normal crop growth, other sections suffered severely from the drought that prevailed along the western border of the State in the lower Kankakee and Iroquois Valleys at the close of the preceding month.

In that part of Illinois near the Mississippi River, in the northern half of the State, and at Springfield, the precipitation was considerably above the normal, but in all other sections it was deficient. Together with the dry weather in May and June, the deficiency in precipitation caused great injury to crops and pastures. This condition was felt most in southern Illinois and least in the northern counties, as the amounts of precipitation were least in the south end and most in the north, although localities in all parts of the State have suffered. The average amounts of rainfall, with the departure from the normal, for the various States, are as follows: North Dakota, 1.95 inches, -0.84 inch; Minnesota, 3.51, +0.29; South Dakota, 3.18, +0.57; Wisconsin, 4.20, -0.31; Iowa, 2.66, -1.45; Missouri, 3.93, -0.23; Indiana, 2.86, +0.02; Illinois, 2.35, -1.27 inches.

The average precipitation for the district, as shown by the records of 319 stations, is 3.02 inches, which is 0.83 inch below the normal. The greatest amount, 9.31 inches, occurred at Rhinelander, Wis.; and the least, 0.08 inch, at Jefferson, Iowa. The greatest amount in 24 consecutive hours, 4.69 inches, occurred at Sublett, Mo., on the 23d. A few flakes of snow were observed at Minonk, Ill., on the 24th, and also at Riley, Ill., on the 25th. These are the first reports of snow in July ever made in Illinois, according to the records on file at Springfield. Measurable precipitation occurred on an average of eight days.

#### SUNSHINE AND CLOUDINESS.

The average number of clear days was 17; partly cloudy, 10; cloudy, 4. The duration of sunshine was above the normal.

#### WIND.

Northwest winds prevailed over the northern and south and southwest over the southern part of the district. The highest velocity reported was 54 miles per hour, from the north, at St. Paul, Minn., on the 4th.

#### RIVERS.

All rivers in the district were at a low stage throughout the month, but not as low as they were during July, 1910.

The Mississippi River at Dubuque, Iowa, fell steadily from the 1st to about the middle of the month, after which the fall was slight. The Wisconsin River was higher at the close of the month than at the beginning.

The average stage of the Wisconsin River, at Wausau, Wis., was 4.1 feet, or 2.5 feet higher than during July, 1910. The average stage at Portage, Wis., was 2.6, or 1 foot higher than during July, 1910. The decidedly higher stage of the upper Wisconsin this July, as compared to last, is due to the heavy rains in northern Wisconsin during the last 30 days. For instance, the rainfall at Rhinelander during July, 1911, was 9.31 inches, as compared to 1.39 inches during July, 1910. The stage of the Mississippi River at Prairie du Chien, Wis., ranged from 1.9 feet on the 1st, to 0.5 foot on the 31st, with an average of 1 foot, or 0.3 foot higher than during July, 1910. At Dubuque it ranged from 2.6 feet on the 1st to 1.1 feet on the 20th, with an average stage of 1.5 feet, or 0.5 foot higher than during July, 1910. On the 17th the steamer *Morning Star*, Northern Line, running from St. Louis to St. Paul, laid up at Le Claire, owing to low water. The steamer *Saint Paul*, Streckfus Line, running from St. Louis to St. Paul, made the trip on schedule time until she was disabled by running onto a snag near Quincy on the 28th; she expects to resume her schedule about August 1. Last year the upper Mississippi was closed to navigation during July.—*J. H. Spencer, Local Forcra ter.*

Throughout the Davenport river district the Mississippi remained low during the entire month, and at the close of the month was only a few tenths of a foot higher than at the corresponding time in 1910. The Illinois River was low during most of the month.

#### MISCELLANEOUS.

A number of destructive wind, thunder, rain, and hail storms occurred in Iowa and Illinois during the month. The storms were, however, local in character, covering only small areas, and the damage wrought was immaterial for the district, as a whole.

On the afternoon of July 31 a torrential rainstorm occurred near What Cheer, Keokuk County, Iowa. The following is an extract from an article published in the Des Moines Evening Tribune on August 1, 1911:

**WHAT CHEER, IOWA, August 1.**—Without warning a wall of water swept down Coal Creek last night, killing cattle, moving buildings, ruining crops, and destroying bridges, causing a total loss of between \$25,000 and \$30,000. A heavy rain fell here all the afternoon, but at Tilton, 7 miles north of here, the precipitation was immense. Coal Creek, usually a dry stream, was soon filled and quickly spread beyond the banks, and Main Street became a river almost in a second. Five feet of water flowed into the stores, stocks of goods were ruined, and clerks and storekeepers were forced to abandon the establishments. The sudden rise of Coal Creek began at 6 o'clock in the evening and continued until midnight. Many people became alarmed for the safety of their lives, but shortly after 12 o'clock the water began to subside, and this morning the creek is again within its banks. No damage was done by the water at Tilton, which is a coal camp. Here the loss will be between \$25,000 and \$30,000. The business section was demoralized, 5 buildings being moved from their foundations and others received damage. Five feet of water stood in many of the business houses. A 30,000-gallon tank in the Standard Oil Co.'s yards was toppled over and the entire contents lost. No fatalities were reported, although cattle in great numbers were killed in the flood. The wall of water came almost without warning, and farmers were unable to rescue their stock. Crops are damaged badly. Coal Creek has been dry since early in the summer, but at points last night it was nearly a mile wide. It flows into the South Skunk River.

#### DRAINAGE AND ENGINEERING NOTES.

The preliminary survey of a proposed drainage district in Worth County, Iowa, referred to last month, has been completed, and Engineer Frank Forbes will have his report ready for the action of the board of supervisors at their next session.

The concrete dam across the Des Moines River, just above Humboldt, Iowa, is well along toward completion. It is 340 feet in length and will develop a head of 20 feet with an estimated horsepower of 1,800.

TABLE 1.—Climatological data for July, 1911. District No. 5, State of North Dakota.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelting.						
<i>North Dakota.</i>																				
Amenia.	Cass.	954	14	71.1	+ 3.7	99	1	37	16	50	2.00	- 1.78	1.35	0	3	20	6	5	nw.	C. E. Wood.
Bottineau.	Bottineau.	1,658	16	62.6	- 3.3	92	3	39	17	47	3.10	+ 0.88	1.42	0	12	.....	.....	.....	nw.	J. A. Kemp.
Cando.	Towner.	1,488	10	61.9	- 2.3	88	8	33	17	44	1.63	- 2.19	0.86	0	5	.....	.....	.....	nw.	E. T. Judd.
Crosby.	Divide.	5	62.4	.....	94	26	39	17	45	1.31	.....	0.65	0	6	21	4	6	nw.	H. C. Kashau.	
Devils Lake.	Ramsey.	1,482	6	64.2	- 3.7	89	8	39	17	35	2.04	- 1.74	0.96	0	11	15	12	4	nw.	U. S. Weather Bureau.
Donnybrook.	Ward.	1,760	12	62.9	- 1.6	95	7	39	15†	47	2.37	- 0.67	0.72	0	7	.....	.....	.....	nw.	C. J. Devore.
Dunseith.	Rolette.	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.	L. H. Trowbridge.
Edmore.	Ramsey.	1,524	6	63.9	.....	88	8†	34	17	41	0.98	.....	0.30	0	8	18	12	1	nw.	H. R. Aslakson.
Forman.	Sargent.	1,249	17	69.6	+ 0.7	102	8	40	21	45	2.42	- 0.23	0.56	0	9	20	8	3	nw.	A. Maltby.
Grafton.	Walsh.	827	20	64.7	- 2.4	90	1†	40	16†	38	1.61	- 0.38	0.57	0	8	18	9	4	nw.	A. R. T. Wylie.
Granville.	McHenry.	1,504	5	64.3	.....	96	7	35	16†	49	1.97	.....	0.66	0	5	19	9	3	nw.	W. A. Christiansen.
Hannah.	Cavalier.	1,568	6	60.0	.....	87	4	36	25	43	2.37	.....	1.01	0	7	.....	.....	.....	nw.	J. Moffatt.
Hansboro.	Towner.	3	63.0	.....	89	4	36	16	46	0.98	.....	0.39	0	9	21	8	2	nw.	Geo. Dale.	
Hillsboro.	Trail.	901	6	68.2	.....	95	1†	45	16	39	2.50	.....	1.05	0	9	17	13	1	nw.	F. E. Mayall.
Lakota.	Nelson.	1,519	5	61.4	.....	86	8	36	16	42*	2.14	.....	0.90	0	8	.....	.....	.....	nw.	C. R. Pettes.
Langdon.	Cavalier.	1,615	16	61.2	.....	89	9	36	16	40	1.38	.....	0.61	0	7	20	0	11	nw.	J. Woolner.
Larimore.	Grand Forks.	1,134	16	64.4	- 1.5	91	1	40	16†	38	1.95	- 1.16	0.82	0	10	16	13	2	nw.	J. Dexter Pierce.
Lisbon.	Ransom.	1,091	7	67.7	+ 0.1	102	8	39	21	44	1.89	- 1.45	0.63	0	8	19	5	7	nw.	H. K. Adams.
McKinney.	Renville.	1,640	17	62.5	- 3.3	97	7	30	17	47	1.06	- 1.11	0.60	0	4	.....	.....	.....	nw.	N. P. Swenson.
Manfred.	Wells.	1,605	10	63.6	.....	94	7	23	16	62	2.77	.....	1.32	0	6	10	12	9	nw.	P. B. Anderson.
Mayville.	Trail.	975	15	73.4	+ 5.5	92	1	50	22	29	3.19	- 0.33	0.47	0	9	26	0	5	nw.	W. C. Gould.
Minot.	Ward.	1,557	13	65.2	- 3.4	94	3	37	17	44	1.21	- 0.54	0.79	0	5	25	2	4	nw.	J. J. Bates.
Minto.	Walsh.	820	18	64.3	- 2.7	90	1	40	17	41	2.12	- 0.75	0.87	0	14	18	12	1	nw.	S. S. Marsh.
Oriska.	Barnes.	1,270	6	65.6	.....	92	1	39	16	37	2.33	.....	0.77	0	9	8	21	2	s.	W. E. Williams.
Park River.	Walsh.	998	8	68.3	.....	94	29	42	16	48	1.29	.....	0.45	0	9	14	17	0	nw.	A. Heyward.
Pembina.	Pembina.	789	13	63.7	- 2.4	92	1	39	16	38	3.17	+ 0.28	1.80	0	9	21	2	8	nw.	C. W. Shumaker.
Power.	Richland.	1,020	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.	J. A. Power.
Pratt.	McHenry.	6	63.2	.....	96	7	34	16†	55	1.63	.....	0.58	0	5	24	6	1	nw.	W. B. Ahern.	
Towner.	do.	3	64.2	.....	94	7	36	16	43	1.95	.....	0.96	0	5	17	13	1	nw.	B. Bagley.	
University.	Grand Forks.	830	19	65.3	- 1.7	91	1	38	16	39	2.06	- 0.43	0.72	0	12	14	12	5	nw.	H. E. Simpson.
Wahpeton.	Richland.	962	19	65.8	- 4.2	102	1	39	16	40	2.51	- 1.64	0.73	0	9	17	4	10	nw.	E. G. Burch.
Walhalla.	Pembina.	966	7	.....	.....	96	1	41	16	45	2.96	.....	0.50	0	14	21	3	7	nw.	C. H. Lee.
Westhope.	Bottineau.	5	69.5	.....	96	7	45	11	39	1.34	.....	0.55	0	8	13	13	5	nw.	C. W. Clark.	
Willow City.	do.	1,471	18	61.4	- 4.1	91	7†	31	17	46	1.17	- 1.10	0.45	0	4	5	24	2	nw.	M. A. Ostby.
<i>Minnesota.</i>																				
Albert Lea.	Freeborn.	1,229	20	72.2	+ 0.8	103	4	45	17	39	5.52	+ 1.87	2.00	0	7	15	15	1	nw.	Edward Carey.
Alexandria.	Douglas.	1,391	17	68.2	- 1.3	99	30	46	21	37	4.21	+ 0.95	1.10	0	9	16	6	9	nw.	P. O. Unumb.
Angus.	Polk.	870	9	63.4	.....	91	1†	34	16	40	2.28	.....	0.80	0	11	14	15	2	nw.	John Nadovnik.
Bagley.	Clearwater.	5	64.2	.....	95	1†	37	16	44	3.05	.....	1.00	0	9	4	27	0	0	nw.	Jens Nelson.
Beardsley.	Bigstone.	1,090	17	70.2	+ 0.7	104	30	41	21	45*	1.75	.....	0	.....	12	12	2	nw.	Roy A. Smith.	
Beaumont.	Mahnomen.	1,200	9	66.5	.....	95	8†	35	16	37	2.61	.....	1.50	0	8	13	18	0	nw.	Dr. P. A. Slattery.
Bird Island.	Renville.	1,039	21	69.6	- 1.3	93	1†	42	15	25	4.02	+ 0.85	1.56	0	9	7	20	4	nw.	Dr. F. L. Puffer.
Caledonia.	Houston.	1,179	18	72.8	+ 1.7	100	1	51	17†	28	3.10	- 0.77	0.92	0	8	19	5	7	sw.	W. D. Belden.
Campbell.	Wilkin.	984	2	66.6	.....	101	1	37	16	45	2.20	.....	0.50	0	14	21	3	7	se.	J. T. Neiss.
Cass Lake.	Cass.	1,300	4	.....	.....	96	1	46	24	29	2.20	.....	2.00	0	2	.....	.....	.....	nw.	C. W. Burns.
Collegeville.	Stearns.	1,282	18	70.4	- 0.8	95	1	48	16†	35	2.02	- 1.31	0.69	0	12	21	7	3	nw.	Fridolin Trembleur.
Crookston.	Polk.	863	21	66.8	- 1.6	99	8	43	16	33	1.78	- 1.03	0.78	0	3	22	2	7	s.	A. G. Andersen.
Detroit.	Becker.	1,364	15	66.7	- 0.6	97	1	35	21	45	4.03	- 0.14	1.87	0	11	19	8	4	nw.	G. W. Peoples.
Ely.	St. Louis.	1,240	24	72.0	+ 0.8	101	2	47	17	40	3.71	+ 0.36	1.36	0	11	11	16	4	nw.	Rev. W. H. Farrell.
Fairmont (near).	Martin.	1,003	14	.....	.....	96	1	41	16	39	2.02	.....	1.21	0	12	21	7	3	nw.	W. F. Wherland.
Faribault.	Rice.	902	23	70.8	+ 0.2	100	2	46	26	39	4.42	+ 1.11	1.33	0	12	14	8	9	nw.	Dr. A. C. Tanner.
Farmington.	Dakota.	902	23	70.8	+ 0.2	100	2	46	26	39	4.42	+ 1.11	1.33	0	12	14	8	9	nw.	E. D. Akin.
Fergus Falls.	Ottoville.	1,210	19	68.8	- 1.1	97	1	44	16	36	4.10	+ 0.32	0.89	0	13	17	11	3	nw.	C. E. Kissinger.
Fort Ripley.	Crow Wing.	1,136	4	66.8	.....	98	1	41	21†	44	3.07	+ 0.55	0.60	0	11	21	2	8	nw.	J. J. Tucker.
Fosston.	Polk.	1,289	2	64.8	.....	94	8	36	16	38	2.07	.....	0.70	0	11	12	19	0	nw.	O. N. Hem.
Fram.	Marshall.	61.5	.....	92	1	35	16†	44	1.75	0.48	0	10	6	25	0	0	0	nw.	A. W. Clark.	
Glencoe.	McLeod.	1,000	15	70.4	+ 0.8	101	5	45	15	41	3.95	+ 1.06	1.75	0	7	19	12	0	nw.	F. B. Reed.
Grand Meadow.	Mower.	1,338	23	71.5	+ 0.1	102	2†	43	17	41	4.62	+ 0.98	2.90	0	9	17	11	3	nw.	C. F. Greening.
Gull Lake Dam.	Cass.	1,215	66.8	.....	99	1	43	14	38	5.25	.....	1.75	0	11	4	21	6	nw.	G. A. Williams.	
Hallock.	Kittson.	815	13	63.6	- 2.6	89	1	37	16	38	2.66	- 0.27	0.95	0	12	21	2	8	n.	D. A. Robertson.
Halstead.	Norman.	870	5	65.7	.....	96	8	37	16	38	2.96	.....	1.70	0	9	18	8	5	nw.	A. G. Holstrom.
Hinckley.	Pine.	1,050	6	67.3	.....	90	1	41	19	38	3.38	.....	1.11	0	9	14	15	2	s.	W. R. Newman.
International Falls.	Koochiching.	1,112	3	65.8	- 1.1	95	1	32	11	41	2.03	.....	0.50	0	7	13	12	6	nw	

TABLE 1.—Climatological data for July, 1911. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total rainfall, unmeasured.	Number of rainy days, 0.01 inch or more.	Number of partly cloudy days.	Number of cloudy days.				
<b>Minnesota—Contd.</b>																					
St. Paul.....	Ramsey.....	837	40	70.6	- 1.5	99	2	46	24	32	5.15	+ 1.75	1.47	0	17	12	16	3	nw.	U. S. Weather Bureau.	
St. Peter.....	Nicollet.....	825	17	72.3	+ 0.9	98	1+	45	17	41	4.35	+ 0.66	1.03	0	9	18	7	6	nw.	State Hospital.	
Sandy Lake Dam.....	Aitkin.....	1,234	18	83.9	- 3.2	92	1	43	16+	33	5.08	+ 1.14	2.10	0	8	5	21	5	ne.	A. Newstrom.	
State Sanatorium.....	Cass.....	3	66.6	.....	95	1	43	16	31	3.73	.....	2.38	0	14	8	18	1	sw.	Dr. W. J. Marcy.		
Stillwater.....	Washington.....	694	6	70.0	.....	97	1+	43	17	30	4.24	.....	1.92	0	12	14	3	14	sw.	Oscar Ostrom.	
Taylors Falls.....	Chisago.....	759	4	70.0	.....	97	1+	43	17	30	4.24	.....	1.53	0	8	16	6	9	nw.	Minneapolis Gen. Elec. Co.	
Warrowad.....	Roseau.....	1,069	2	64.3	.....	93	S	40	17	40	2.70	.....	1.35	0	8	20	7	4	w.	J. H. Sawyer.	
West Concord.....	Dodge.....	1,232	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	se.	H. H. Orcutt.	
Winnebago.....	Faribault.....	1,100	12	72.3	+ 0.2	103	4	47	17+	40	3.74	- 0.75	1.95	0	11	15	11	5	nw.	H. H. Haught.	
Winnibigoshish.....	Itasca.....	1,300	23	67.8	+ 0.7	94	1	47	22+	32	2.84	- 1.20	1.84	0	7	22	8	1	nw.	John Duncan.	
Wifona.....	Winona.....	706	15	74.4	+ 1.5	105	2	45	17	41	2.08	- 0.77	0.43	0	10	13	10	8	nw.	P. C. Myers.	
Worthington.....	Nobles.....	1,599	16	73.2	+ 3.4	102	4	46	21+	46	1.39	- 2.75	0.33	0	12	19	5	7	s.	M. P. Mann.	
Zumbrota.....	Goodhue.....	917	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	w.	W. C. Rowell.	
<b>South Dakota.</b>																					
Milbank.....	Grant.....	1,148	20	69.0	- 1.0	102	30	45	16	40	3.18	+ 0.57	0.91	0	10	21	3	7	nw.	I. T. Patridge.	
<b>Wisconsin.</b>																					
Antigo.....	Langlade.....	1,489	17	67.7	+ 0.1	100	2	41	24	34	5.56	.....	1.43	0	12	15	8	8	w.	Eldon C. Larzelere.	
Barron.....	Barron.....	1,115	20	67.2	+ 1.0	97	2	34	17	48	4.90	+ 0.02	1.03	0	7	17	11	3	s.	Wm. A. Kent.	
Beloit.....	Rock.....	750	45	73.1	+ 0.2	98	3+	47	26	32	1.40	- 2.25	0.80	0	6	29	0	2	w.	Smith Observatory.	
Big St. Germain Dam.....	Vilas.....	1,590	1	64.8	.....	100	2	39	18+	37	9.30	.....	3.30	0	14	10	11	10	sw.	Oscar Brehmer.	
Brodhead.....	Green.....	812	13	75.2	+ 2.4	104	5	45	26	41	0.91	- 3.77	0.26	0	6	18	13	0	sw.	Hector D. Kirkpatrick.	
Burnett.....	Dodge.....	880	7	71.4	.....	97	2+	47	17	34	1.30	.....	0.34	0	11	13	4	4	sw.	Geo. W. Smith.	
Cottage Grove.....	Dane.....	888	5	74.2	.....	105	5	39	26	46	1.90	.....	1.62	0	10	18	9	4	sw.	John E. Mellish.	
Darlington.....	Lafayette.....	867	5	63.4	.....	101	2	35	24	39	7.13	.....	1.28	0	14	15	13	3	w.	S. P. Nelson.	
Deerskin Dam.....	Forest.....	1,625	1	63.4	.....	102	5	42	17	43	1.64	- 2.62	0.93	0	10	20	6	5	sw.	Wm. E. O'Neal.	
Delavan.....	Walworth.....	920	20	73.6	+ 1.7	102	5	42	17	43	1.64	- 2.62	0.93	0	10	20	6	5	sw.	Elwood S. Austin.	
Dodgeville.....	Iowa.....	1,116	11	.....	.....	96	1+	38	17	44	3.30	.....	0.88	0	8	3	5	23	w.	Geo. H. Butler.	
Downing.....	Dunn.....	983	9	66.7	.....	103	1+	38	17	44	3.30	.....	0.88	0	8	3	5	23	w.	Eugene F. Stoddard.	
Eau Claire.....	Eau Claire.....	800	20	70.6	- 0.1	98	2	45	17	35	4.13	+ 0.66	0.93	0	10	16	12	3	nw.	Robert D. Whitford.	
Grand Rapids.....	Wood.....	1,021	12	69.6	+ 0.3	99	2	40	18	36	2.93	+ 0.06	0.54	0	12	17	6	8	sw.	Willis B. Raymond.	
Grantsburg.....	Burnett.....	1,095	20	68.9	- 0.2	100	1	41	22	46	5.87	+ 1.47	1.45	0	10	14	7	10	sw.	Theodore Olsen.	
Hancock.....	Wausau.....	1,091	19	71.8	+ 0.9	100	2	44	17	36	3.13	- 0.82	1.00	0	8	14	9	8	w.	Frederick B. Hamilton.	
Hatfield.....	Jackson.....	973	17	68.7	- 1.9	98	2	37	17	44	3.42	+ 1.86	1.16	0	11	2	22	7	se.	Walter S. Woods.	
Hayward.....	Sawyer.....	1,197	20	67.2	+ 0.2	95	2	41	14	40	6.09	+ 2.31	1.50	0	12	13	4	1	sw.	William E. Swain.	
Hillsboro.....	Vernon.....	1,000	20	69.0	- 0.3	98	2	38	17	44	4.20	+ 0.71	1.11	0	9	15	1	1	nw.	Emil V. Wernick.	
Koepenick.....	Langlade.....	1,683	20	64.4	- 3.0	98	2	35	17	40	6.25	+ 2.41	1.10	0	13	14	5	12	sw.	Edward S. Koepenick.	
Lac du Flambeau.....	Vilas.....	1,088	1	67.4	.....	99	2	46	24	36	6.48	.....	2.18	0	12	15	12	4	w.	W. J. Lovett.	
La Crosse.....	La Crosse.....	714	39	72.9	+ 0.2	103	2	45	17	38	2.58	- 1.49	0.57	0	11	13	8	10	s.	U. S. Weather Bu., S. Newton.	
Lake Mills.....	Jefferson.....	897	20	74.4	+ 3.2	106	3	45	16	36	0.84	- 3.25	0.26	0	7	17	12	2	sw.	Dexter Smith.	
Lancaster.....	Grant.....	1,070	20	73.3	+ 1.6	102	5	49	24+	39	3.80	- 0.31	1.00	0	9	17	11	2	sw.	Edward Pollock.	
Long Lake.....	Oneida.....	1,592	3	64.6	.....	103	2	35	18+	43	6.96	.....	1.43	0	16	17	8	6	s.	Louis Frank.	
Madison.....	Dane.....	974	22	72.6	+ 0.2	98	4	52	25	30	1.68	- 2.31	0.58	0	9	14	11	6	sw.	U. S. Weather Bureau.	
Matzer.....	Juneau.....	962	7	68.4	.....	99	2	37	17	39	2.90	.....	0.49	0	12	12	9	10	w.	Frank Evans.	
Maukton.....	Grant.....	882	15	71.2	+ 1.0	97	2	40	17	35	2.74	.....	1.55	0.75	0	7	20	4	7	sw.	Eugene L. Hitchcock.
Mea low Valley.....	Clark.....	974	20	68.2	- 1.1	100	2	38	17	41	3.39	- 0.59	0.93	0	13	6	23	2	sw.	Charles H. Johnson.	
Med (r).....	Taylor.....	1,420	22	67.0	- 1.8	98	2	40	17	35	6.48	+ 2.39	1.33	0	11	17	10	4	w.	William Zeit.	
Merrill.....	Lincoln.....	1,267	5	.....	.....	97	2	40	17	39	5.69	.....	1.70	0	11	16	0	15	s.	J. M. Wilson.	
Minocqua.....	Buffalo.....	1,604	7	66.6	.....	98	2	42	19	32	7.92	.....	2.14	0	14	16	5	12	nw.	Benjamin W. Applebee.	
Mondovi.....	Dane.....	738	3	69.9	.....	100	2	39	17	41	3.13	.....	0.60	0	12	18	10	3	s.	Dr. Charles Hebard.	
Mount Horeb.....	Grant.....	1,226	7	71.8	.....	103	5	45	25	38	4.09	.....	2.40	0	10	22	6	3	s.	W. M. Lewis.	
Muscoa.....	Clark.....	666	2	76.0	.....	105	5	46	26	39	2.16	.....	0.58	0	8	19	5	7	nw.	William Hessler.	
Neillsville.....	St. Croix.....	996	21	70.0	+ 0.2	99	2	40	17	39	3.81	+ 0.02	1.00	0	8	14	0	17	nw.	William Headlett.	
New Richmond.....	Polk.....	990	6	68.8	.....	98	1	44	26	37	4.47	.....	0.89	0	13	14	2	sw.	Franc A. R. Van Meter.		
Osceola.....	Price.....	1,492	20	66.0	- 1.1	97	1+	40	26	39	5.40	.....	2.33	0	13	12	17	2	sw.	Charles W. Staples.	
Park Falls.....	Portage.....	809	22	75.0	+ 3.6	105	3+	50	26	40	1.37	- 1.98	0.47	0	9	15	14	2	nw.	Flambeau Paper Co.	
Portage.....	Columbia.....	969	1	71.3	.....	101	2+	38	17	40	3.23	.....	0.90	0	13	10	0	21	w.	James H. Martin.	
Prairie du Chien.....	Crawford.....	690	20	73.8	0.0	106	2	45	17+	43	3.22	- 0.41	0.80	0	10	19	3	9	w.	Nekoosa-Edwards Paper Co.	
Prentice.....	Price.....	1,551	13	62.4	- 3.2	92	1	33	12	41	4.69	+ 0.60	1.10	0	9	11	10	10	w.	James H. Gillis.	
Rhinelander.....	Oneida.....	1,550	5	67.8	.....	98	2	41	18	35	9.31	.....	2.33	0	14	15	4	12	nw.	Joseph G. Lash.	
Sauk's City.....	Sauk.....	758	3	74.4	.....	106	5	45	17+	45	3.82	.....	0	10	19	11	1	sw.	Rhinelander Power Co.		
Shullsburg.....	Lafayette.....	1,019	5	72.4	.....	101	5	43	17	40	2.51	.....	0.63	0	8	13	10	8	s.	Kilien Derleth.	
Solon Springs.....	Douglas.....	1,053	5	66.4	.....	98	1+	40	26	42	6.70	.....	2.75	0	8	13	13	5	sw.	Harrison B. Chamberlain.	
Spooner.....	Washburn.....	1,104	17	67.4	- 1.8	96	1	44	16												

TABLE 1.—Climatological data for July, 1911. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.		
				Mean.			Departure from the normal.			Greatest daily range.			Total.							
				Highest.	Date.	Lowest.	Date.	Lowest.	Date.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmetted.	Number of rainy days, 0.01 inch or more.	Number of part cloudy days.	Number of clear days.				
<i>Iowa—Continued.</i>																				
Burlington.....	Des Moines.....	544	15	77.2	+ 1.8	105	3 <sup>t</sup>	48	26	35	3.74	+ 0.12	1.50	0	4	22	0	9	sw.	
Carroll.....	Carroll.....	1,265	21	73.8	+ 0.8	105	4	42	16	43	0.24	- 3.77	0.24	0	1	25	6	0	se.	
Cedar Rapids.....	Linn.....	733	29	76.3	+ 1.6	110	5	47	26	43	4.00	- 0.04	2.14	0	9	21	1	9	s.	
Charles City.....	Floyd.....	1,015	20	73.0	- 0.5	104	4	39	20	39	3.03	- 0.55	1.44	0	9	12	11	3	nw.	
Clear Lake.....	Cerro Gordo.....	1,241	13	75.6	+ 2.4	101	4	49	18	37	1.90	- 2.84	0.70	0	4	23	0	0	s.	
Clinton.....	Clinton.....	593	44	75.0	+ 1.2	103	5	44	26	41	3.44	- 0.76	0.91	0	10	13	17	1	s.	
Columbus Junction.....	Louisa.....	595	10	76.6	+ 1.0	106	2	49	26	34	5.82	+ 1.81	2.35	0	6	27	3	1	s.	
Davenport.....	Scott.....	580	40	76.7	+ 1.3	104	5	51	26	30	5.12	+ 1.57	2.73	0	11	16	13	2	.....	
Decorah.....	Winneshiek.....	875	18	75.9	+ 3.9	108	2	42	23	50	3.59	- 0.13	1.61	0	7	1	0	0	U. S. Weather Bureau.	
Delaware.....	Delaware.....	1,083	20	72.6	+ 0.7	103	5	47	17	38	5.31	+ 1.16	2.04	0	7	19	10	2	F. H. Baker.	
Des Moines.....	Polk.....	861	33	77.2	+ 1.7	105	5	49	17	35	3.16	- 2.70	0.40	0	9	11	15	5	William Ball.	
Dubuque.....	Dubuque.....	639	38	74.8	+ 0.1	104	5	49	26	35	4.41	+ 0.11	1.97	0	10	10	16	5	U. S. Weather Bureau.	
Eartham.....	Madison.....	9	76.1	109	5	41	17	46	1.41	1.41	1.00	0	3	22	8	1	sw.	Do.		
Elkader.....	Clayton.....	727	32	73.8	+ 0.2	105	5	43	26	45	6.62	+ 1.94	1.75	0	7	17	13	0	George Phillips.	
Elma.....	Howard.....	2	70.4	102	2 <sup>t</sup>	38	17	48	3.63	3.63	0.92	0	11	10	21	0	nw.	Chas. Reinecke.		
Estherville.....	Emmet.....	1,298	16	72.4	+ 1.3	105	4	45	26	42	4.06	- 2.52	0.49	0	13	18	0	s.	H. A. Moore.	
Fairfield.....	Jefferson.....	27	74.7	103	5	45	17	42	1.42	1.42	1.00	0	3	22	5	1	sw.	A. O. Peterson.		
Fayette.....	Fayette.....	1,003	21	72.8	- 0.3	103	4	42	17	45	3.39	- 0.70	1.15	0	7	22	6	3	R. Monroe McKenzie.	
Forest City.....	Winnebago.....	1,226	17	75.4	+ 1.4	105	4	46	17	45	1.86	- 1.82	0.84	0	7	21	5	sw.	R. Z. Latimer.	
Fort Dodge.....	Webster.....	1,126	11	74.1	+ 1.6	106	4	43	17	42	0.61	- 2.42	0.37	0	3	20	4	7	J. F. Monk.	
Fort Madison.....	Lee.....	516	62	76.2	+ 1.3	105	4	45	26	42	4.82	+ 0.86	2.50	0	6	11	15	5	Miss L. A. McCready.	
Gilman.....	Marshall.....	1,052	12	71.8	+ 1.3	95	2 <sup>t</sup>	47	17	32	2.92	- 1.82	0.70	0	7	11	17	3	J. L. Wylie.	
Grand Meadow.....	Clayton.....	1,180	20	71.8	+ 1.3	95	2 <sup>t</sup>	47	17	32	2.92	- 1.82	0.70	0	11	11	17	3	F. L. Williams.	
Greene.....	Butler.....	13	76.4	105	5	47	17	40	3.30	3.30	- 1.65	1.56	0	8	26	0	5	sw.	J. L. Cole.	
Grinnell.....	Poweshiek.....	1,023	19	76.4	+ 3.2	106	5	47	17	40	3.30	- 1.65	1.56	0	7	24	0	7	D. W. Brainard.	
Grundy Center.....	Grundy.....	976	20	75.0	+ 2.8	105	5	40	17	42	1.07	- 3.48	0.57	0	5	22	8	1	J. B. Calderwood.	
Guthrie Center.....	Guthrie.....	1,077	16	76.5	+ 3.1	107	5	44	17	44	0.66	- 4.16	0.29	0	6	10	16	5	D. G. Beardsley.	
Hampton.....	Franklin.....	1,155	21	75.0	+ 2.6	105	5	47	17	37	2.30	- 2.53	1.20	0	6	10	16	5	E. C. Grenelle.	
Humboldt.....	Humboldt.....	1,095	23	74.8	+ 1.9	105	4	41	17	49	0.82	- 3.12	0.55	0	6	27	4	0	Henry S. Wells.	
Independence.....	Buchanan.....	921	47	74.0	+ 1.1	103	5	44	26	34	5.39	+ 0.80	1.62	0	9	22	7	2	R. E. Dudley.	
Indianola.....	Warren.....	969	20	78.2	+ 3.5	105	4 <sup>t</sup>	50	17	35	1.00	- 3.26	0.33	0	5	16	13	2	Prof. J. L. Tilton.	
Iowa City.....	Johnson.....	683	51	74.2	0.0	104	5	43	26	40	0.70	- 0.78	1.19	0	9	24	0	2	Prof. A. G. Smith.	
Iowa Falls.....	Hardin.....	1,170	18	72.2	+ 0.2	103	4	40	17	45	1.54	- 2.56	0.73	0	5	22	5	4	J. B. Parmelee.	
Jefferson.....	Greene.....	12	76.6	111	5	41	17	49	0.08	0.08	- 3.78	0.08	0	1	0	1	0	M. E. Hall.		
Keokuk.....	Lee.....	547	40	78.2	+ 1.2	104	5	52	26	47	4.48	+ 2.45	1.91	0	7	15	13	3	U. S. Weather Bureau.	
Kenoshaqua.....	Van Buren.....	644	19	78.4	+ 2.5	111	5	43	26	46	3.41	- 0.72	1.76	0	8	7	15	9	J. H. Landes.	
Knoxville.....	Marion.....	920	16	78.2	+ 2.7	109	5	49	17	38	3.07	- 1.39	1.08	0	7	17	7	7	Casey and Bellville.	
Lacona.....	Warren.....	12	72.2	102	4	45	17	39	1.62	1.62	- 1.17	3.31	0.50	0	5	11	18	2	J. B. Alter.	
Le Claire.....	Scott.....	576	11	74.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	10	19	5	7	Miss M. T. Disney.	
Marshalltown.....	Marshall.....	947	19	75.7	+ 2.5	105	4 <sup>t</sup>	44	17	42	2.77	- 1.94	1.23	0	6	17	13	1	Ralph B. Reasoner.	
Mason City.....	Cerro Gordo.....	1,132	14	73.2	+ 1.7	104	4	42	17	42	1.42	- 2.64	0.67	0	6	12	19	0	J. S. Mills.	
Mount Pleasant.....	Henry.....	729	30	77.8	+ 2.2	104	5	46	26	40	3.53	- 0.30	1.59	0	8	12	19	0	William Molis.	
Muscatine.....	Muscatine.....	51	74.0	104	4	45	17	40	2.90	2.90	- 1.29	0.95	0	7	18	13	0	A. F. Kemman.		
New Hampton.....	Chickasaw.....	1,169	14	73.8	+ 2.4	104	4	45	17	40	2.91	- 0.85	1.88	0	11	18	12	1	Hon. J. P. Beatty.	
Newton.....	Jasper.....	944	23	74.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	4	22	7	6	Chas. H. Dwellie.	
Northwood.....	Worth.....	1,222	15	72.8	- 0.4	107	5	41	26	45	5.67	+ 1.70	2.44	0	8	24	7	0	M. H. Crissman.	
Olin.....	Jones.....	760	13	72.8	- 0.4	107	5	41	26	45	5.67	+ 1.70	2.44	0	5	20	6	5	Dr. A. D. Bundy.	
Ossage.....	Mitchell.....	1,184	24	74.2	+ 3.7	103	4	45	17	39	4.61	+ 0.89	1.79	0	5	20	6	5	Joseph Boyd.	
Oskaloosa.....	Malaska.....	843	35	77.4	+ 3.0	109	5	49	26	39	2.96	- 1.01	1.10	0	6	25	2	4	Chester Potter.	
Ottumwa.....	Wapello.....	649	16	79.3	+ 3.3	110	5	50	17	38	0.91	- 3.22	0.32	0	5	15	11	5	J. H. Ver Steeg.	
Pella.....	Marion.....	877	9	76.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	10	27	1	3	Ed. S. Gray.	
Perry.....	Dallas.....	975	10	77.4	+ 2.8	109	5	43	17	43	1.21	- 3.40	0.78	0	5	20	8	3	J. S. Smith.	
Plover.....	Pocahontas.....	1,420	15	74.6	+ 2.0	103	4	39	17	48	3.35	- 3.02	0.45	0	10	25	6	0	F. E. Hronek.	
Pocahontas.....	do.....	1,248	7	72.9	.....	102	4	45	17	39	1.62	- 0.69	0.69	0	10	17	14	0	Arthur Betts.	
Ridgeway.....	Winneshiek.....	1,215	15	75.0	+ 1.6	104	5	46	17	40	3.81	- 0.85	1.88	0	11	18	12	1	C. M. Randall.	
Rockwell City.....	Calhoun.....	15	75.9	103	3 <sup>t</sup>	47	17	35	1.05	1.05	- 2.47	0.45	0	4	22	7	6	E. N. Bally.		
Sac City.....	Sac.....	1,273	35	74.6	+ 1.9	100	4	50	17	35	1.53	- 2.50	0.80	0	5	17	9	5	R. D. Minard.	
St. Charles.....	Madison.....	1,070	10	78.1	+ 4.0	109	5	51	17	36	1.04	- 4.75	0.65	0	5	17	9	5	J. T. Parker.	
Sigourney.....	Keokuk.....	877	15	76.4	+ 0.6	104	5	45	17	39	3.68	- 0.62	2.43	0	7	1	30	0	C. L. Beswick.	
Stockport.....	Van Buren.....	745	9	77.9	.....	108	5	43	26	40	3.96	.....	1.85	0	7	22	6	3	Prof. Warren Ingold.	
Storm Lake.....	Buena Vista.....	1,440	22	74.0	+ 2.1	100	4	49	24	37	2.82	- 1.48	1.60	0	8	19	8	4	J. F. Fox.	
Stuart.....	Guthrie.....	1,216	12	78.8	+ 4.0	108	3	52	24	34	4.01	- 0.21	1.79	0	7	1	0	sw.	F. K. Gregg.	
Tipton.....	Cedar.....	807	12	74.0	.....	108	3	52	24	34	4.01	- 0.21	1.79	0	7	1	0	se.	I. F. Giger.	
Toledo.....	Tama.....	856	17	74.4	+ 0.8	102	5	42	26	39	2.61	- 1.45</								

TABLE 1.—Climatological data for July, 1911. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.	Observers.					
				Mean.	Departure from the normal.	Highest.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, uncorrected.	Number of rainy days, 0.01 inch or more.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.			
<i>Illinois.</i>																				
Aledo.	Mercer.	738	11	75.6	+ 1.5	103	3†	47	26	30	3.84	+ 0.04	1.02	0	12	10	0	s.		
Alexander.	Morgan.	670	18	76.6	+ 0.4	102	5	43	26	37	1.91	- 1.88	0.80	0	9	9	18	4	s.	
Antioch.	Lake.	861	10	74.0	+ 1.6	105	5	46	17†	39	1.28	- 2.10	0.67	0	4	13	12	6	w.	
Astoria.	Fulton.	650	12	75.0	+ 1.2	99	4†	46	17	35	2.90	- 0.65	1.10	0	7	21	7	3	s.	
Aurora.	Kane.	687	32	73.0	- 0.1	99	5	44	26	39	2.06	- 1.41	1.12	0	7	15	10	6	sw.	
Beardstown.	Cass.	448	—	—	—	—	—	—	—	3.04	—	1.10	—	0	8	—	—	—	—	
Bement.	Piatt.	700	4	77.2	—	103	3†	50	18†	40	—	—	—	0	—	15	10	6	w.	
Bloomington.	McLean.	840	20	76.3	+ 0.7	103	3†	46	26	38*	2.80	- 0.96	1.22	0	6	19	8	4	sw.	
Cairo.	Alexander.	359	33	78.4	- 0.2	99	4	59	25	24	1.99	- 1.46	0.96	0	8	9	14	8	sw.	
Carbondale.	Jackson.	412	6	79.7	—	104	4	51	26	38	2.60	—	1.46	0	6	15	13	3	sw.	
Carlinville.	Macoupin.	663	21	77.6	+ 1.2	104	5	48	26	38	2.30	- 1.57	0.95	0	4	21	8	2	s.	
Carlyle.	Clinton.	470	26	—	—	—	—	—	—	—	—	—	—	0	—	—	—	—	—	
Chester.	Randolph.	380	5	—	—	—	—	—	—	1.58	—	0.46	—	0	10	—	—	—	—	
Clinton.	Dewitt.	727	1	76.3	—	102	4†	47	26	33	2.77	—	1.34	0	6	27	3	1	sw.	
Coatsburg.	Adams.	763	19	78.0	+ 1.4	104	3†	53	25†	33	3.41	- 0.67	1.55	0	6	23	5	3	s.	
Cobden.	Union.	656	28	78.9	+ 0.2	103	4	53	25†	37	1.60	- 2.70	0.60	0	5	15	8	8	s.	
Dakota.	Stephenson.	929	6	72.7	—	100	5	46	26	35	1.40	—	0.26	0	9	13	13	5	sw.	
Decatur.	Macon.	685	20	76.6	+ 0.9	102	4	48	26	38	1.45	- 1.88	0.65	0	5	16	12	3	sw.	
Dixon.	Lee.	725	21	75.2	+ 1.1	104	3†	47	26	38	3.38	- 0.53	0.97	0	7	19	9	3	—	
Du Quoin.	Perry.	459	23	78.4	+ 0.1	105	4	47	26	38	41	1.91	- 2.26	0.54	0	6	17	14	0	sw.
Dwight.	Livingston.	600	18	75.4	+ 0.1	105	5	46	26	37	1.18	- 2.10	0.72	0	8	15	9	7	sw.	
East St. Louis.	St. Clair.	418	—	—	—	—	—	—	—	0.62	—	0.34	0	6	—	—	—	—	—	
Edwardsville.	Madison.	554	12	—	—	—	—	—	—	1.73	- 1.20	0.84	0	5	—	—	—	—	—	
Elgin.	Kane.	716	4	74.9	—	101	5	48	26	35	1.86	—	0.71	0	6	7	21	3	sw.	
Galva.	Henry.	842	19	75.4	+ 1.0	104	3†	48	26	34	3.99	+ 0.23	1.98	0	8	21	0	10	sw.	
Grafton.	Jersey.	422	18	—	—	—	—	—	—	2.17	- 1.88	0.72	0	7	—	—	—	—	—	
Greenville.	Bond.	635	33	77.8	+ 0.4	99	3†	53	26	30	1.47	- 2.19	0.66	0	5	18	8	5	se.	
Griggsville.	Pike.	650	26	78.0	+ 1.4	101	5	54	26	30	2.92	- 0.52	1.10	0	5	12	18	1	s.	
Havana.	Mason.	475	19	79.0	+ 1.7	106	5	53	26	33	1.91	- 2.23	0.93	0	5	12	19	0	s.	
Henry.	Marshall.	500	23	76.0	+ 1.5	102	5	47	26	33	3.25	- 0.38	1.44	0	6	21	5	5	se.	
Hillsboro.	Montgomery.	675	17	77.1	+ 0.6	104	3†	48	26	41	2.78	- 1.13	1.35	0	5	25	0	6	s.	
Joliet.	Will.	541	20	72.9	- 0.9	100	5	46	26	37	2.46	- 1.04	1.06	0	7	24	3	4	sw.	
Kishwaukee.	Winnebago.	730	23	74.4	+ 1.2	102	5	47	17†	41†	1.27	- 2.22	0.42	0	9	22	8	1	sw.	
La Grange.	Cook.	657	19	74.0	+ 0.9	101	5	48	25†	35	2.89	- 1.52	1.07	0	7	18	10	3	se.	
La Harpe.	Hancock.	698	32	76.2	- 0.2	105	5	45	26	40	1.71	- 2.61	1.97	0	8	22	9	0	se.	
Lanark.	Carroll.	883	22	73.4	+ 0.8	103	3†	41	26	47	3.42	- 0.70	1.08	0	10	26	3	2	sw.	
La Salle.	La Salle.	536	33	75.4	+ 0.1	101	3	50	26	33	3.16	- 0.11	0.94	0	9	17	11	3	sw.	
Lincoln.	Logan.	482	23	75.0	- 0.9	98	4†	44	26	37	1.57	- 1.50	0.59	0	6	14	15	2	s.	
Loami.	Sangamon.	624	11	—	—	—	—	—	—	2.16	- 1.37	0.75	0	5	20	3	8	s.		
Manteno.	Kankakee.	711	—	—	—	—	—	—	—	1.80	—	1.41	0	8	24	4	4	sw.		
Martinton.	Iroquois.	633	24	75.2	+ 1.0	104	3†	45	26	40	0.80	- 2.55	0.43	0	5	19	8	4	s.	
Mascoutah.	St. Clair.	425	21	79.0	+ 1.0	108	4	47	18†	44	1.58	- 1.84	0.53	0	7	18	11	2	se.	
Minonk.	Woodford.	745	18	76.6	+ 1.7	104	5	47	26	38	2.87	- 0.18	0.96	0	9	19	9	3	nw.	
Monmouth.	Warren.	784	19	76.2	+ 1.4	106	3	46	26	36	4.12	- 0.19	1.00	0	8	22	1	8	s.	
Morrison.	Whiteside.	685	17	74.4	+ 1.1	105	5	46	26	39	3.06	- 1.75	0.99	0	12	20	11	0	s.	
Morrisonville.	Christian.	638	12	76.0	+ 0.8	100	3	44	26	39	1.59	- 2.43	0.47	0	5	23	5	3	sw.	
Mount Vernon.	Jefferson.	511	17	78.6	+ 0.8	104	3†	48	26	35	3.44	- 2.61	0.83	0	6	20	7	4	s.	
Oregon.	Ogle.	702	2	74.6	—	101	3†	47	17	37	1.27	—	0.30	0	7	19	6	6	s.	
Ottawa.	La Salle.	500	25	76.2	+ 1.0	100	5	49	26	35	1.60	- 2.16	1.38	0	3	24	5	6	sw.	
Pana.	Christian.	692	25	77.4	+ 1.1	101	4	50	25	35	1.55	- 2.36	0.53	0	5	27	1	3	s.	
Peoria.	Peoria.	609	33	75.0	- 0.4	100	5	46	26	34	2.58	- 0.39	1.03	0	7	10	18	3	sw.	
Pontiac.	Livingston.	546	9	76.7	—	106	5	45	26	38	1.52	—	0.88	0	0	7	14	10	7	sw.
Riley.	McHenry.	956	52	73.8	+ 2.1	101	5	45	26	35	1.21	- 2.23	0.51	0	6	12	16	3	s.	
Roberts.	Ford.	774	—	—	—	—	—	—	—	1.64	—	0.72	0	5	16	12	3	s.		
Rockford.	Winnebago.	763	19	74.4	+ 0.5	102	5	49	26	32	0.81	- 2.74	0.25	0	7	20	5	6	—	
Rushville.	Schuylerville.	670	20	76.8	+ 1.1	100	4†	51	17	32	3.07	- 0.91	1.18	0	6	13	14	4	s.	
Saint Charles.	Kane.	700	16	74.4	+ 0.7	101	5	46	26	39	1.66	- 1.91	0.63	0	6	17	13	1	s.	
Saint Peter.	Fayette.	500	9	78.3	—	102	3†	46	26	43	0.72	—	0.42	0	2	2	15	14	2	sw.
Sparta.	Randolph.	538	25	78.5	+ 1.3	105	4	53	25	35	1.67	- 1.78	0.82	0	6	18	7	6	ne.	
Springfield.	Sangamon.	644	33	77.2	+ 0.7	101	4	53	26	29	4.87	+ 1.97	1.50	0	8	11	16	4	s.	
Streator.	La Salle.	626	18	74.6	- 0.3	103	5	49	49†	38	2.44	- 1.36	0.90	0	7	25	0	6	sw.	
Sullivan.	Moultrie.	530	11	77.4	+ 1.6	104	4	50	25†	39	1.90	- 0.89	0.90	0	5	15	1	sw.		
Sycamore.	De Kalb.	855	31	74.2	+ 2.1	106	3	46	26	42	2.65	- 0.99	0.95	0	6	23	2	6	sw.	
Tiskilwa.	Bureau.	798	27	—	—	—	—	—	—	3.27	- 0.84	1.17	0	8	—	—	—	—	—	
Walnut.	Bureau.	717	20	75.4	- 0.2	103	5	47	26	36	3.11	- 0.88	1.12	0	10	20	10	1	s.	
Warsaw.	Hancock.	501	13	—	—	—	—	—	—	5.26	+ 0.40	1.70	0	5	—	—	—	—	—	
White Hall.	Greene.	573	3	73.6	—	104	3†	47	26	44	3.12	—	1.05	0	9	17	8	6	s.	
Windsor.	Shelby.	681	12	78.0	+ 2.5	104	4	45	26	41†	1.92	- 2.11	0.43	0	8	10	19	2	s.	
Winnebago.	Winnebago.	900	24	74.8	+ 1.9	105	3	47	17†	41	1.09	- 2.03	0.30	0	8	25	4	2	sw.	
Yorkville.	Kendall.	584	24	72.4	- 0.5															

TABLE 2.—*Daily precipitation for July, 1911. District No. 5, State of North Dakota.*

Stations.	Watershed.	Day of month.																													Totals			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
<i>North Dakota.</i>																																		
Amenia.....	Red.....	T.....	T.....																															2.00
Bottineau.....	Mouse.....																																	3.10
Cando.....	Sheyenne.....																																	1.63
Croshy.....	Mouse.....	T.....																																1.31
Devils Lake.....	Sheyenne.....																																	2.04
Donnybrook.....	Mouse.....																																	2.37
Dunseith.....	do.....																																	6.64
Edmore.....	Sheyenne.....																																	0.98
Forman.....	do.....	T.....	.35	.22	.03																													2.42
Grafton.....	Red.....	.02																																1.61
Granville.....	Mouse.....																																	1.97
Hannah.....	Pembina.....	.09																																2.37
Hansboro.....	Red.....																																	0.98
Hillsboro.....	do.....																																	2.50
Lakota.....	Sheyenne.....																																	2.14
Langdon.....	Pembina.....	.08																																1.38
Larimore.....	Red.....																																	1.95
Lisbon.....	Sheyenne.....																																	1.89
McKinney.....	Mouse.....																																	1.06
Manfred.....	Sheyenne.....																																	2.77
Mayville.....	Red.....																																	3.19
Minot.....	Mouse.....																																	1.21
Oriska.....	Sheyenne.....	.10																																2.33
Park River.....	Red.....																																	1.29
Pembina.....	do.....	1.80																																3.17
Power.....	Sheyenne.....																																	5.52
Pratt.....	Mouse.....	.03																																1.63
Towner.....	do.....																																	1.95
University.....	Red.....																																	2.06
Wahpeton.....	do.....																																	2.51
Walhalla.....	Pembina.....																																	1.34
Westhope.....	Mouse.....																																	1.17
Willow City.....	do.....																																	3.17
<i>Minnesota.</i>																																		
Albert Lee.....	Mississippi.....																																	5.52
Alexandria	do.....	T.....	1.10	.50	T.....																													4.21
Angus.....	Red.....																																	2.28
Bagley.....	do.....																																	3.05
Beardsley.....	Minnesota.....																																	2.61
Beaulieu.....	Red.....																																	3.95
Bird Island.....	Minnesota.....																																	3.10
Caledonia	Mississippi.....																																	2.96
Campbell	Red.....																																	2.20
Cass Lake	Mississippi.....																																	2.20
Collegeville.....	do.....																																	2.02
Crookston	Red.....																																	1.78
Detroit	do.....	T.....	.23	T.....																													4.04	
Ely.....	Rainy.....	T.....	.10	.23	T.....																											4.20		
Fairmont (near).....	Minnesota.....	.04																																3.71
Faribault.....	Mississippi.....																																	3.71
Farmington.....	Red.....																																	4.42
Fergus Falls.....	Red.....																																	4.10
Fort Ripley	Mississippi.....																																	3.07
Fosston.....	Red.....																																	2.07
Fram.....	do.....																																	1.75
Glencoe.....	Minnesota.....																																	3.95
Grand Meadow.....	Minnesota.....																																	4.62
Hallok.....	Red.....																																	2.66
Halstad	do.....																																	2.96
Hinckley.....	St. Croix.....																																	3.38
International Falls.....	Rainy.....																																	2.03
Itasca State Park.....	Minnesota.....				</td																													

TABLE 2.—*Daily precipitation for July, 1911. District No. 5—Continued.*

Stations.	Watershed.	Day of month.																														Total.										
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31										
<i>Minnesota—Contd.</i>																																										
Warrowd.	Rainy.			T.		.05	1.35							T.		.10				.05		.30			.05								.65	2.70								
West Concord.	Mississippi.				T.	.47	.15	T.		.04	.05	.02				T.		.02		T.		.29			.40	T.	T.						.55	3.74								
Winnebago   .	Minnesota.					.05				T.	.01						.22																		.24	2.84						
Winnibigoshish.	Mississippi.										.10																										.31					
Winona.	do.			.43	.04																																	.30	2.08			
Worthington   .	Des Moines.			.04	.04						.31	.01					T.		.07	.02		.09	.15													.04	1.39					
Zumbrota.	Mississippi.																																									
<i>S Dakota.</i>																																										
Milbank   .	Minnesota.			.26	.17						.41	.22																										.52	3.18			
<i>Wisconsin.</i>																																										
Antigo.	Wisconsin.			T.	.34						.74	.36						.16	.03	T.	.16	1.43			.98	.20	T.										5.56					
Barron.	Chippewa.			.30		.43	1.03										*																					.24	3.90			
Beloit.	Rock.			*		.40											*																							1.40		
Big St. Germain Dam.	Wisconsin.			.20	.40	1.75											.72		T.		.02		T.															9.30				
Brodhead.	Rock.																																								0.91	
Burnett.	do.																																								1.30	
Cottage Grove.	do.																																								1.62	
Darlington.	do.																																								1.90	
Deerskin Dam.	Wisconsin.			.55	1.20												.15																						7.13			
Delavan.	Rock.			.22		.06											.03																						.06			
Dodgeville   .	do.																																								.02	
Downing.	Chippewa.																																								3.30	
Eau Claire.	do.																																									3.30
Grand Rapids   .	Wisconsin.			T.		.05	.15										.52	T.																					2.93			
Grantsburg.	St. Croix.			.18	.60												T.																							5.87		
Hancock.	Wisconsin.																																								3.13	
Hatfield.	Black.																																								1.68	
Hayward.	St. Croix.			*		.35	1.45										1.16																					6.09				
Hillsboro.	Wisconsin.			T.		.12	.12										.11																						1.68			
Koepenick.	do.																.25	T.																						1.68		
Lac du Flambeau.	Chippewa.			.26	2.18												.33	T.																					6.48			
La Crosse.	Mississippi.			.01	.53	.02											.08	T.																					2.58			
Lake Mills.	Rock.			.26													.12	T.																						0.84		
Lancaster.	Mississippi.																.55	.40																					3.80			
Long Lake.	Wisconsin.			.09	.33	1.10										.38	.02	T.		.16																	6.96					
Madison.	Rock.																.56	.02	T.		.11																	1.68				
Mather   .	Wisconsin.			T.		.12	.06										.13	.43																				2.90				
Mauston.	do.																.75	.35																					2.74			
Meadow Valley.	do.																T.		.05																					3.39		
Medford.	Black.			.68	.42												1.33	.30																				6.48				
Merrill.	Wisconsin.																.40	.10																					5.69			
Minocqua.	do.			.30	.53	1.48											.28	.09	T.		.14																	2.14				
Mondovi.	Mississippi.			.02	.29	.28	T.										.51																						1.33			
Mount Horeb.	Rock.																.37																							4.09		
Muscooda   .	Wisconsin.																.58	.46	T.																				3.22			
New Richmond.	St. Croix.			.04	.54	.32											.05																						4.47			
Osceola   .	do.			T.	.62	.82											.25	.15	T.		.07																	4.87				
Park Falls.	Chippewa.			.20	2.33												.35	.09	T.		.29																	5.40				
Portage.	Wisconsin.			T.		.12	.08									.30		T.		.02																	1.37					
Port Edwards.	do.			.11													.40	.03	T.		.04																	3.23				
Prairie du Chien   .	Mississippi.			.40		.56											.80	.64	T.																			3.22				
Prentice.	Chippewa.			T.		.95											.08		T.		.03																	4.69				
Rhineland.	Wisconsin.			T.		1.01	1.00</																																			

TABLE 2.—*Daily precipitation for July, 1911. District No. 5—Continued.*

TABLE 2.—*Daily precipitation for July, 1911. District No. 5—Continued.*

Stations.	Watershed.	Day of month.																													Total.							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
<i>Illinois—Contd.</i>																																						
Coatsburg.....	Mississippi.....																																	.28	3.41			
Cobden.....	do.....	T.																																.22	T.	T.	1.60	
Dakota.....	do.....																																				1.40	
Decatur    .....	Illinois.....																																				1.45	
Dixon    .....	Mississippi.....																																				3.38	
Duquoin.....	do.....																																				1.91	
Dwight.....	Illinois.....	T.	.06																																	.02	.08	1.18
East St. Louis    .....	Mississippi.....																																				0.62	
Edwardsville.....	do.....																																				1.73	
Elgin.....	Illinois.....																																				1.86	
Galva    .....	do.....																																				3.99	
Grafton    .....	Mississippi.....																																				2.17	
Greenville.....	do.....	T.																																			1.47	
Griggsville.....	Illinois.....	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	T.	2.92				
Havana.....	do.....																																				1.91	
Henry.....	do.....	T.																																			3.25	
Hillsboro    .....	Mississippi.....																																				2.78	
Joliet.....	Illinois.....	.90	T.	.05	.06	T.																															.21	2.46
Kishwaukee.....	Mississippi.....	.19																																			.01	1.27
La Grange.....	Illinois.....																																				.77	2.39
La Harpe.....	do.....	.53	.30																																		1.47	
Lanark.....	Mississippi.....	.20																																			.08	3.42
La Salle.....	Illinois.....	.16	.43																																		.53	3.16
Lincoln.....	do.....																																				.59	
Loami.....	do.....																																				.60	
Manteno.....	do.....	T.	T.	.01																																	.08	
Martinton    .....	do.....	T.	.21																																		.05	
Mascoutah.....	Mississippi.....																																				.80	
Minonk.....	Illinois.....	.03	.96																																		.28	
Monmouth.....	Mississippi.....	.74																																			.35	
Morrison.....	do.....	.14	.09																																		.02	
Morrisonville.....	Illinois.....																																				.47	
Mount Vernon    .....	Mississippi.....	T.																																			.44	
Oregon.....	do.....	.30																																			.30	
Ottawa.....	Illinois.....																																				.11	
Pana.....	Mississippi.....																																				.23	
Peoria.....	Illinois.....																																				.55	
Pontiac.....	Illinois.....																																				.16	
Riley.....	Mississippi.....	.23	T.	.02	.51																															.03		
Roberts.....	Illinois.....	T.	.50																																		.64	
Rockford    .....	Mississippi.....	.03																																			.81	
Rushville.....	Illinois.....																																				.07	
St. Charles.....	do.....	T.	T.																																		.66	
St. Peter.....	Mississippi.....																																				.72	
Sparta.....	do.....																																				.67	
Springfield.....	Illinois.....																																				.87	
Streator    .....	do.....	.50	T.	.05	.20																															.44		
Sullivan.....	Mississippi.....																																				.90	
Sycamore    .....	do.....																																				.65	
Tiskilwa.....	Illinois.....	.42	T.																																		.37	
Walnut.....	Mississippi.....	.28																																			.27	
Warsaw    .....	do.....	.44																																			.11	
White Hall.....	Illinois.....	10																																			.14	
Windsor.....	Mississippi.....																																				.12	
Winnipeg.....	do.....	.22																																			.12	
Yorkville.....	Illinois.....																																				.09	
Zion.....	Mississippi.....	.50																																			.29	

\* Precipitation included in that of the next measurement.

† Separate dates of falls not recorded.

||| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for July, 1911. District No. 5.*

Date.	North Dakota.										Minnesota.																	
	Bottineau. §§		Devils Lake.		Lisbon. §§		Minot. §§		Pembina. §§		Collegeville.		Crookston. §§		Grand Meadow.		Montevideo. §§		Moorhead.		New Ulm. §§		Pine River Dam.		St. Paul.		Winnibigoshish.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1....	85	64	87	63	99	76	83	65	92	66	95	76	95	75	98	69	101	78	99	71	102	77	96	75	98	77	94	77
2....	80	55	83	57	89	62	83	57	88	50	93	72	78	66	102	72	89	70	78	61	90	69	92	69	99	71	92	69
3....	92	48	86	52	90	52	94	50	89	50	88	64	85	55	93	69	88	58	86	54	93	65	78	60	88	67	87	60
4....	56	88	59	64	61	86	60	84	58	89	63	87	60	102	68	103	65	88	62	102	68	89	64	93	65	83	63	
5....	74	55	79	57	76	54	73	53	94	63	75	59	88	72	92	68	76	58	97	71	87	57	89	64	81	63		
6....	87	51	81	48	76	45	86	44	80	51	80	55	81	52	85	60	82	50	82	51	84	58	79	50	80	59	83	57
7....	93	46	85	61	91	55	97	64	85	56	81	58	88	58	91	64	92	66	88	57	91	65	79	53	84	63	81	54
8....	87	60	89	62	102	67	79	63	88	59	91	74	99	67	93	68	99	72	100	67	97	70	92	70	94	69	87	64
9....	75	47	79	53	84	51	78	51	75	57	87	64	79	60	85	69	84	61	82	58	84	68	86	63	81	69	87	64
10....	74	50	79	54	85	54	79	54	75	54	81	59	82	62	93	52	87	56	85	59	87	58	74	60	86	60	83	60
11....	72	44	72	49	79	48	77	49	70	50	80	59	70	52	85	50	79	55	73	51	79	62	72	52	76	61	78	55
12....	75	46	76	48	84	42	78	49	74	46	78	55	77	50	86	48	84	50	80	46	82	53	78	56	80	54	73	56
13....	76	43	76	47	84	42	80	47	75	47	77	58	76	50	84	58	83	50	79	50	82	58	77	54	79	60	74	53
14....	83	46	82	51	89	46	86	48	79	50	83	58	81	53	86	54	89	51	84	50	99	54	80	49	84	57	79	50
15....	75	51	72	47	82	48	80	55	69	56	81	60	71	57	93	56	88	58	77	52	93	58	75	66	86	59	75	55
16....	73	40	70	40	79	41	76	41	68	39	70	48	71	43	76	48	76	46	73	43	84	56	72	65	69	51	70	48
17....	70	39	72	39	79	44	72	37	72	42	74	55	71	46	79	43	78	52	74	46	77	53	73	66	75	54	73	52
18....	69	48	69	51	73	54	71	50	78	46	73	53	70	53	73	49	80	55	69	54	66	50	68	58	64	55	70	49
19....	73	44	74	46	85	41	75	45	76	49	78	51	75	50	80	53	80	45	79	46	81	49	78	60	76	50	81	52
20....	70	48	70	51	78	54	74	50	74	50	78	57	72	55	86	50	82	54	74	55	82	60	75	68	82	55	71	51
21....	77	41	76	46	82	39	82	40	75	46	76	52	77	48	82	45	83	46	80	45	83	51	77	69	77	53	73	55
22....	66	47	72	48	85	42	67	48	75	49	85	52	80	50	89	49	90	53	84	50	92	54	84	73	86	54	79	47
23....	62	50	63	48	71	51	66	50	68	50	82	56	65	53	80	55	64	64	66	52	67	59	75	55	70	56	68	53
24....	70	44	68	49	79	49	71	48	70	48	65	48	67	49	75	46	70	50	70	50	62	49	63	46	64	46	74	47
25....	77	40	74	43	80	45	78	43	79	42	72	50	72	45	72	50	78	48	76	48	69	48	75	56	72	52	74	49
26....	91	50	86	51	80	44	93	50	82	45	79	53	83	50	81	47	87	50	86	47	86	49	78	54	79	52	78	48
27....	78	56	83	57	97	51	80	65	80	51	81	64	88	58	83	58	83	62	90	65	76	56	83	60	79	51	78	53
28....	76	43	78	52	88	52	80	50	77	51	81	62	81	55	84	59	88	60	82	56	78	53	83	61	79	61	79	51
29....	84	44	83	53	94	52	95	60	93	53	82	50	80	56	90	57	96	58	87	60	90	59	83	53	86	60	83	60
30....	78	53	78	55	99	54	79	51	78	52	94	59	85	60	93	66	100	65	94	64	96	64	92	57	93	64	89	60
31....	64	51	70	49	71	51	61	56	74	42	88	62	72	57	82	60	78	60	75	58	78	66	70	60	76	65	77	61
Mns.	77.0 <sup>b</sup>	48.1 <sup>b</sup>	77.3	51.1	84.7	50.7	79.3	51.2	77.2	50.2	82.0	58.7	78.6	55.0	86.1	56.9	85.6	57.3	81.2	54.4	85.1	59.0	79.1	59.8	81.5	59.6	78.9	56.6
Wisconsin.														Iowa.														
Date.	Delavan.	Eau Claire.	La Crosse.	Madison.	Mauiston.	Spooner.	Wausau.	Algona.	Cedar Rapids. §§	Charles City.	Davenport.	Des Moines.	Dubuque.	Keokuk.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1....	95	66	97	73	99	75	93	72	96	70	96	73	96	71	100	74	102	75	98	71	97	76	100	78	96	76	98	75
2....	98	70	98	74	103	77	96	75	97	74	94	62	99	73	101	78	105	77	102	73	98	78	102	78	98	78	100	76
3....	101	72	95	67	92	72	96	72	90	70	95	62	92	68	95	76	105	75	96	69	104	78	101	74	102	79	103	77
4....	100	66	89	66	100	70	98	69	93	67	92	61	87	62	104	76	106	79	104	71	102	77	101	75	102	79	104	82
5....	107	76	86	70	94	74	98	68	90	75	89	61	83	68	104	73	110	81	100	71	104	74	105	72	104	71	104	82
6....	86	68	84	63	84	65	79	65	80	64	80	55	83	67	88	61	89	71	86	64	90	71	87	70	85	72	89	71
7....	90	59	84	59	89	67	87	61	85	60	82	56	83	54	90	68	94	66	88	68	94	64	86	65	94	73	87	73
8....	97	65	65	93	72	94	73	91	68	65	64	71	94	65	94	76	94	68	92	72	93	75	92	73	92	75	92	75
9....	94	54	72	88	75	88	66	91	70	85	70	81	63	90	70	86	76	92	76	87	76	91	70	95	70	97	70	
10....	92	69	88	56	92	62	88	68	80	66	83	59	86	66	96	76	97	68	93	60	92	71	94	69	92	71	94	69
11....	98	65	82	56	89	61	88	55	60	74	57	80	57	90	76	92	72	89	56	97	75	95	72	91	69	97	74	
12....	84	52	81	51	82	53	76	59	75	52	77	46	76	56	87	76	83	65	89	49	83	66	86	65	88	70	84	69
13....	88	56	81	58	84																							

TABLE 3.—*Maximum and minimum temperatures for July, 1911. District No. 5—Continued.*

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois.															
					Cairo.		Greenville.		La Salle.		Monmouth.		Mount Ver- non §§		Peoria.		Springfield.		Winnebago.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.....	98	72	96	59	94	71	95	70	95	68	98	70	98	65	95	68	95	69	96	66
2.....	98	73	95	79	97	74	97	73	97	72	101	70	99	68	96	69	98	71	100	70
3.....	101	73	99	79	97	76	99	75	101	76	106	71	104	71	100	70	99	74	105	70
4.....	101	77	100	76	99	75	99	76	99	73	103	71	104	73	99	74	101	76	103	67
5.....	104	77	98	68	92	73	98	76	101	78	105	73	103	74	100	77	100	78	104	73
6.....	89	77	85	68	88	73	95	74	90	66	92	69	97	71	89	72	95	74	87	68
7.....	94	72	90	68	90	73	96	73	95	63	96	65	99	69	95	67	95	70	96	69
8.....	92	75	95	62	88	73	90	73	92	72	94	71	96	71	92	73	92	74	97	67
9.....	94	74	94	70	90	71	94	72	93	73	97	72	97	71	94	72	95	74	96	71
10.....	94	73	89	71	91	73	91	75	90	73	93	70	95	73	91	72	95	75	95	67
11.....	98	74	93	69	85	74	97	71	93	77	97	74	98	70	93	72	96	69	98	68
12.....	86	64	80	60	95	72	93	70	83	63	87	60	96	68	84	62	85	69	85	53
13.....	86	57	85	55	89	74	91	63	86	63	88	60	91	66	85	59	84	62	87	58
14.....	90	59	84	57	91	71	91	63	84	62	89	62	93	61	87	61	89	64	86	54
15.....	85	61	92	59	94	70	95	68	92	65	95	63	96	63	93	61	93	65	95	57
16.....	81	60	77	64	81	67	84	66	78	62	81	62	85	66	80	57	82	65	81	59
17.....	80	52	77	50	82	62	80	55	80	54	83	49	82	54	81	49	81	57	82	47
18.....	84	52	85	50	85	67	87	57	82	57	85	55	90	52	84	53	84	58	86	53
19.....	78	66	82	61	85	68	75	69	80	66	83	65	92	64	79	66	77	66	86	65
20.....	83	68	.....	.....	82	72	82	64	86	57	90	56	85	68	87	57	82	67	90	60
21.....	89	64	85	56	88	73	91	66	83	62	84	65	94	70	84	58	88	66	88	56
22.....	88	61	81	52	89	72	89	62	86	53	89	54	94	62	86	52	86	61	89	48
23.....	89	64	.....	.....	84	72	85	67	81	64	86	55	90	70	84	63	86	68	78	60
24.....	73	59	70	55	79	66	78	59	67	53	74	54	79	59	68	55	72	57	75	50
25.....	77	57	.....	.....	79	59	78	54	68	54	74	52	83	53	72	51	75	55	72	48
26.....	79	50	80	46	S2	59	80	53	76	50	82	46	86	48	79	46	78	53	76	47
27.....	89	62	87	47	86	62	89	59	84	58	89	55	92	54	86	57	87	58	89	50
28.....	74	67	88	44	82	64	86	61	77	65	80	57	90	59	77	63	82	62	78	64
29.....	87	65	84	.....	74	66	84	67	85	65	90	62	83	65	87	64	86	67	92	57
30.....	89	68	88	.....	82	66	83	68	88	66	89	65	85	65	87	66	84	67	93	60
31.....	84	69	84	.....	83	68	85	66	85	65	85	67	88	68	86	66	85	67	90	66
Means.....	88.5	65.9	87.3	61.0	87.2	69.6	88.9	66.6	86.4	64.4	89.8	62.6	92.4	64.9	87.1	63.0	88.0	66.4	89.5	60.0

\*, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.